

The Relevance of the MBNMS for Implementing Ecosystem-Based Approaches to Management within its Boundaries

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What is EBAM?

An umbrella term designed to capture the many varied applications of ecological principles to the management of human interaction with natural systems, including:

- Ecosystem Approaches to Management
- Ecosystem-Based Management
- Ecosystem-Based Fisheries Management
- Ecosystem Management

EBAM Issues

We surveyed the global literature on EBAM and identified four major issues that are regularly addressed by management in an ecosystem context:

- 1) Habitat Alteration
- 2) Water Quality
- 3) Wildlife Conservation and Management
- 4) Living Resource Management

Relevance

A term used to describe how pertinent, connected, or applicable something is to a given matter...

...or, how pertinent, connected, or applicable the MBNMS is within its boundaries with respect to the four EBAM issues

Methods

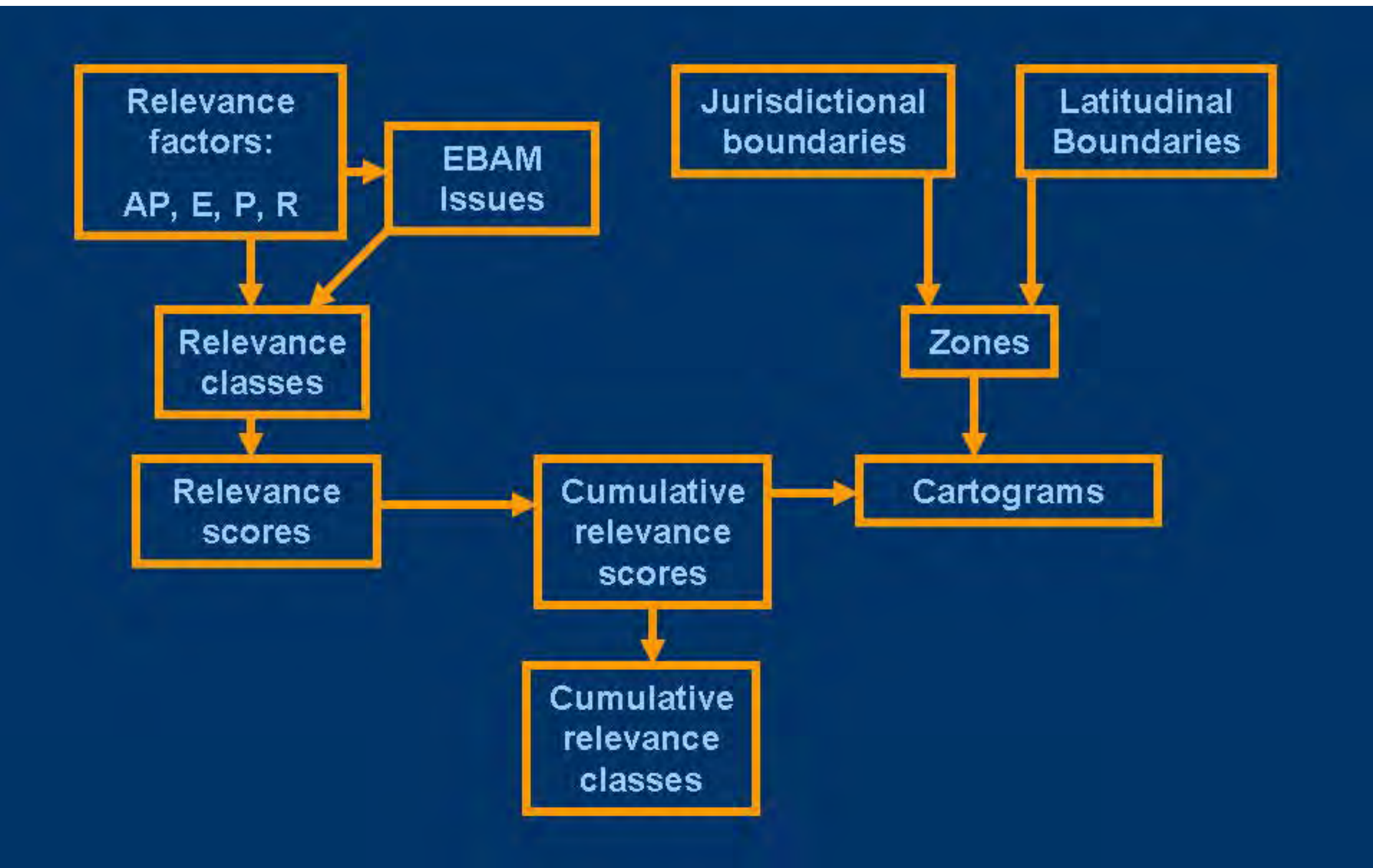
We identified four primary factors that contribute to the relevance of the MBNMS for implementing EBAM within its boundaries.

- 1) The authority of the MBNMS within its boundaries
- 2) The financial commitment of the MBNMS to each EBAM issue
- 3) The extent to which EBAM issues are addressed in MBNMS management documents
- 4) The extent of MBNMS collaboration with other agencies

A proxy was developed for each of the factors using information contained in the recently released Sanctuary Management Plan and data obtained from communications with Sanctuary employees.

Proxies

- MBNMS Regulations (R)
- MBNMS Staff Effort (E)
- MP Action Plans (AP)
- Regulatory Partners (P)



The proxies were apportioned across the nine zones. A simple model was used to calculate a cumulative relevance score each EBAM issue.

Results

Model results for each of the nine zones were depicted as cartograms. A cartogram is a type of thematic map in which the areas of spatial features are distorted in proportion to the value of an attribute.

We grouped the model output into *intuitive* results...

Monterey Bay area is focal point of MBNMS' relevance with respect to EBAM issues within its boundaries

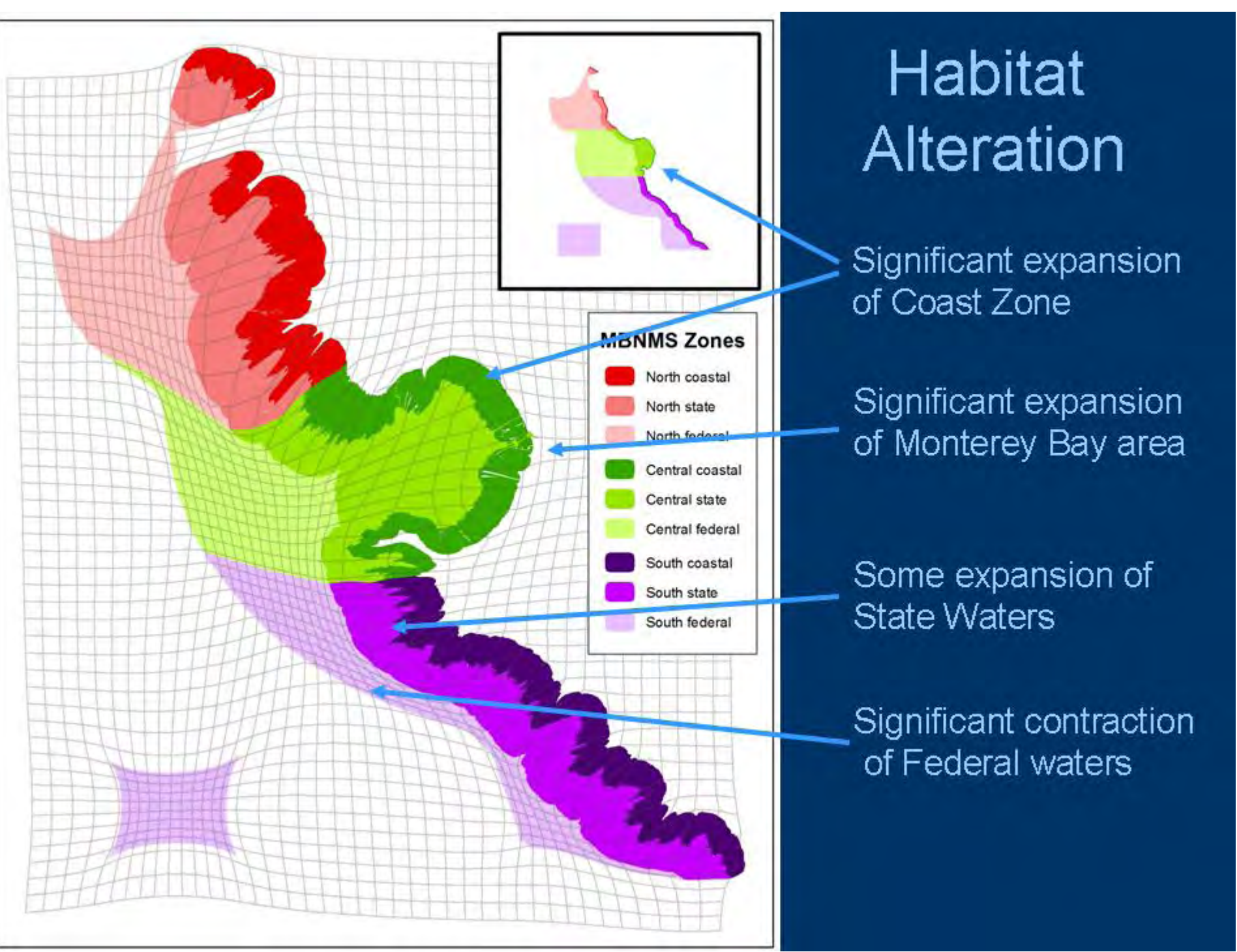
And *counter-intuitive* results...

Differences in relevance across issues are negligible

Relevance is weighted significantly toward the coastline and State Waters

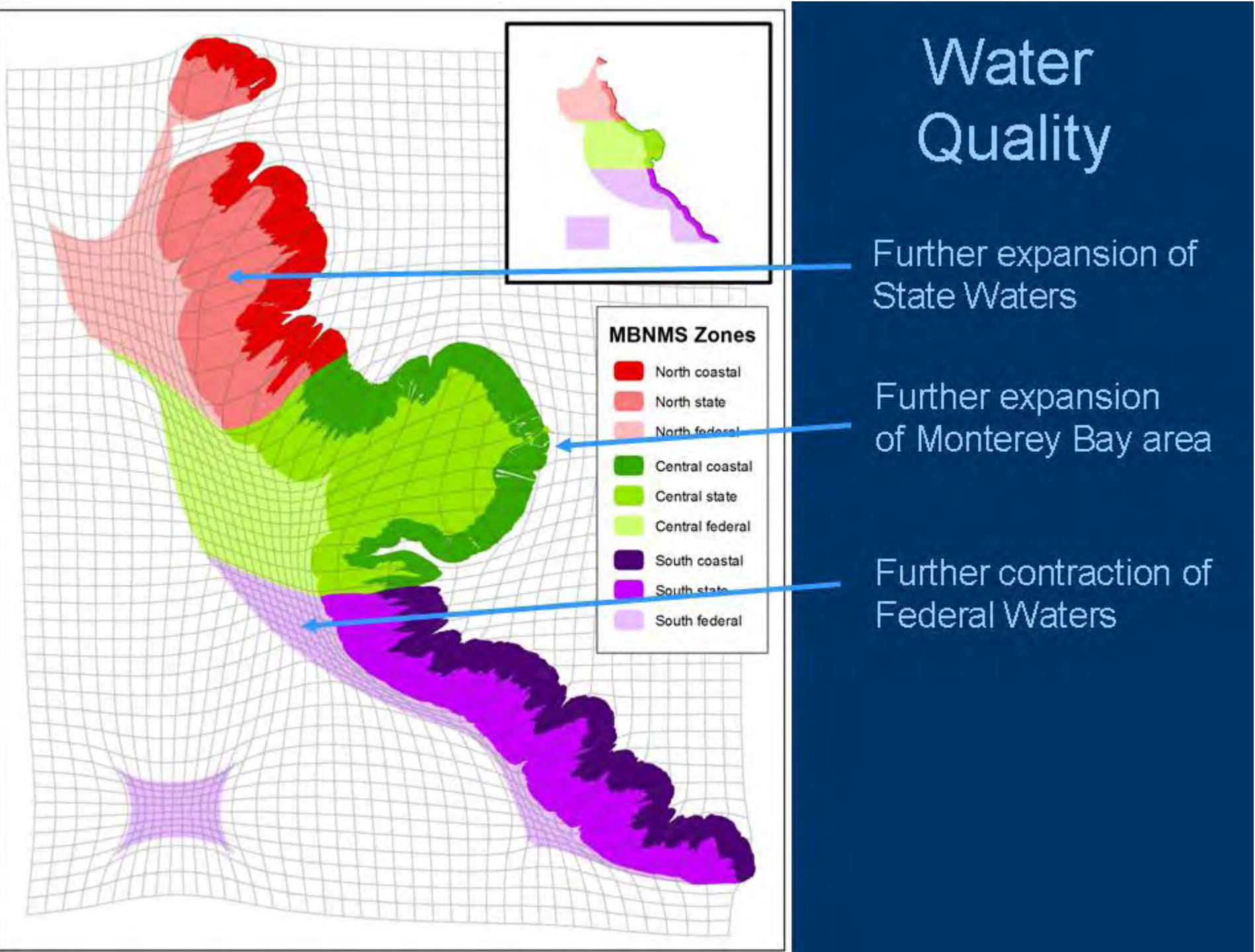
Relevance is limited in Federal Waters

The next step is to expand the analysis to the other four Sanctuaries in California and Washington state to produce a comprehensive assessment of Sanctuary relevance for EBAM along the west coast.



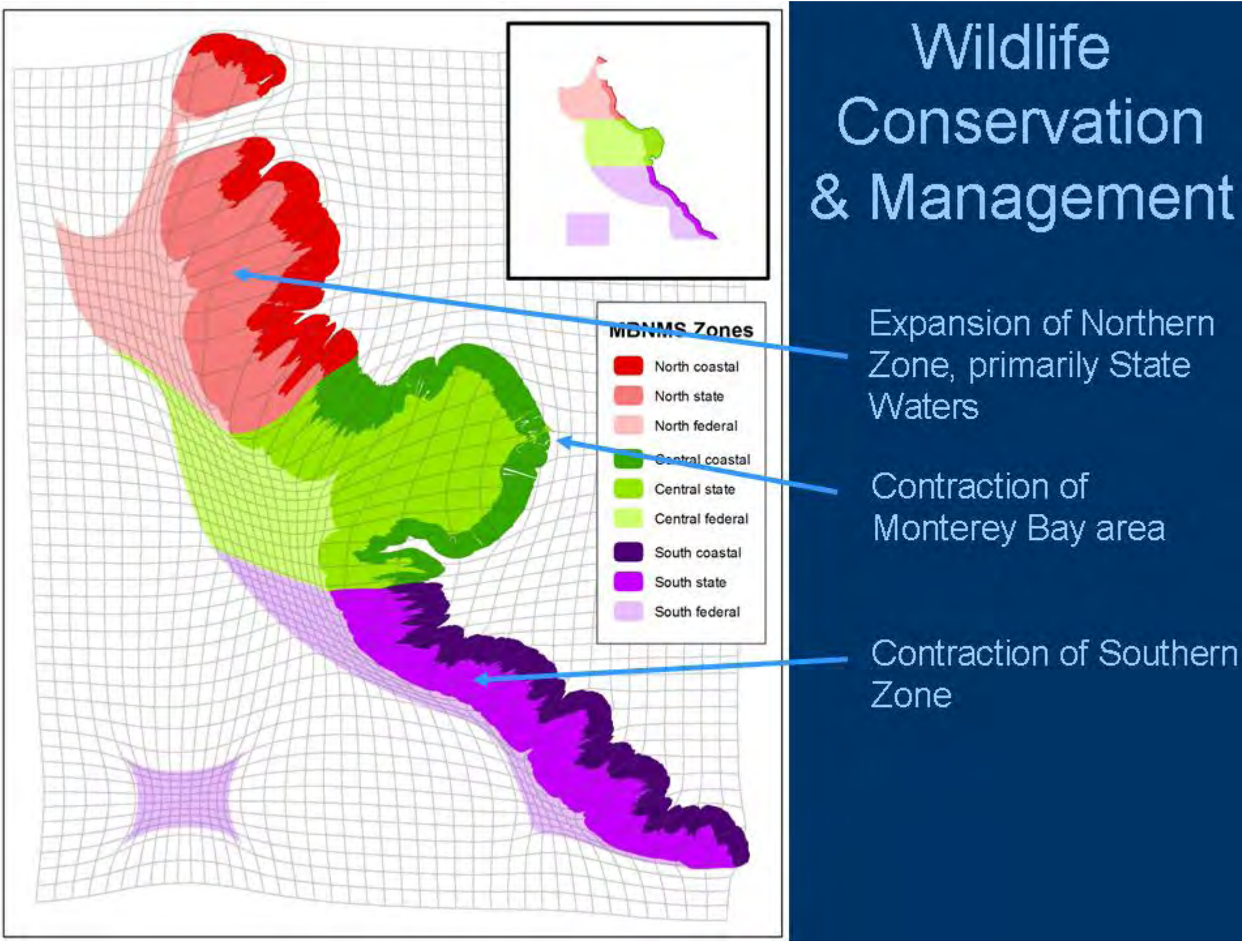
Habitat Alteration

- Significant expansion of Coast Zone
- Significant expansion of Monterey Bay area
- Some expansion of State Waters
- Significant contraction of Federal waters



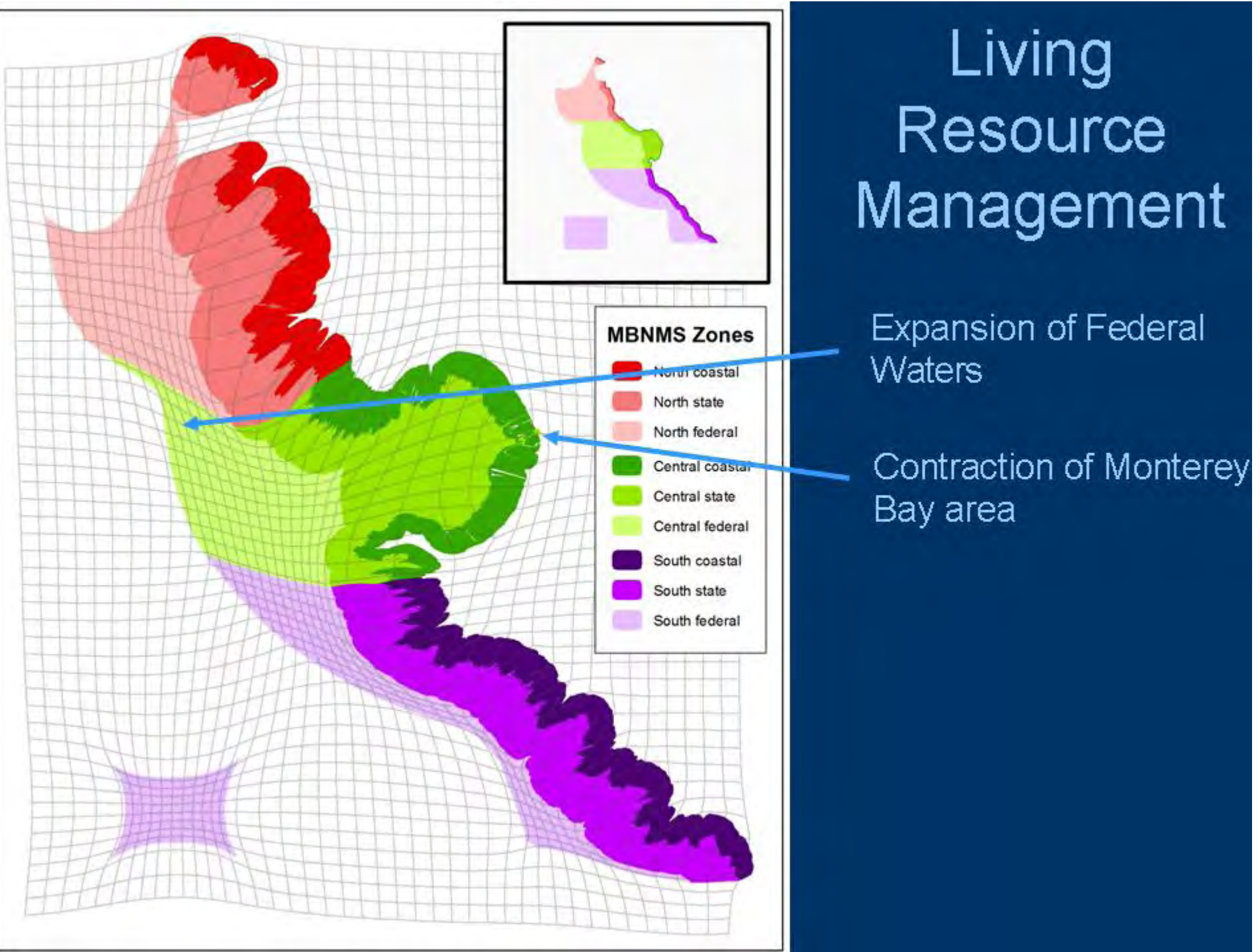
Water Quality

- Further expansion of State Waters
- Further expansion of Monterey Bay area
- Further contraction of Federal Waters



Wildlife Conservation & Management

- Expansion of Northern Zone, primarily State Waters
- Contraction of Monterey Bay area
- Contraction of Southern Zone



Living Resource Management

- Expansion of Federal Waters
- Contraction of Monterey Bay area